



Armed Forces College of Medicine AFCM





Veins of The Thorax

By

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INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

1. Describe beginning, course, termination, important relations and tributaries of the veins of the thorax
2. Compare between right and left brachiocephalic veins
3. Describe formation of azygous system



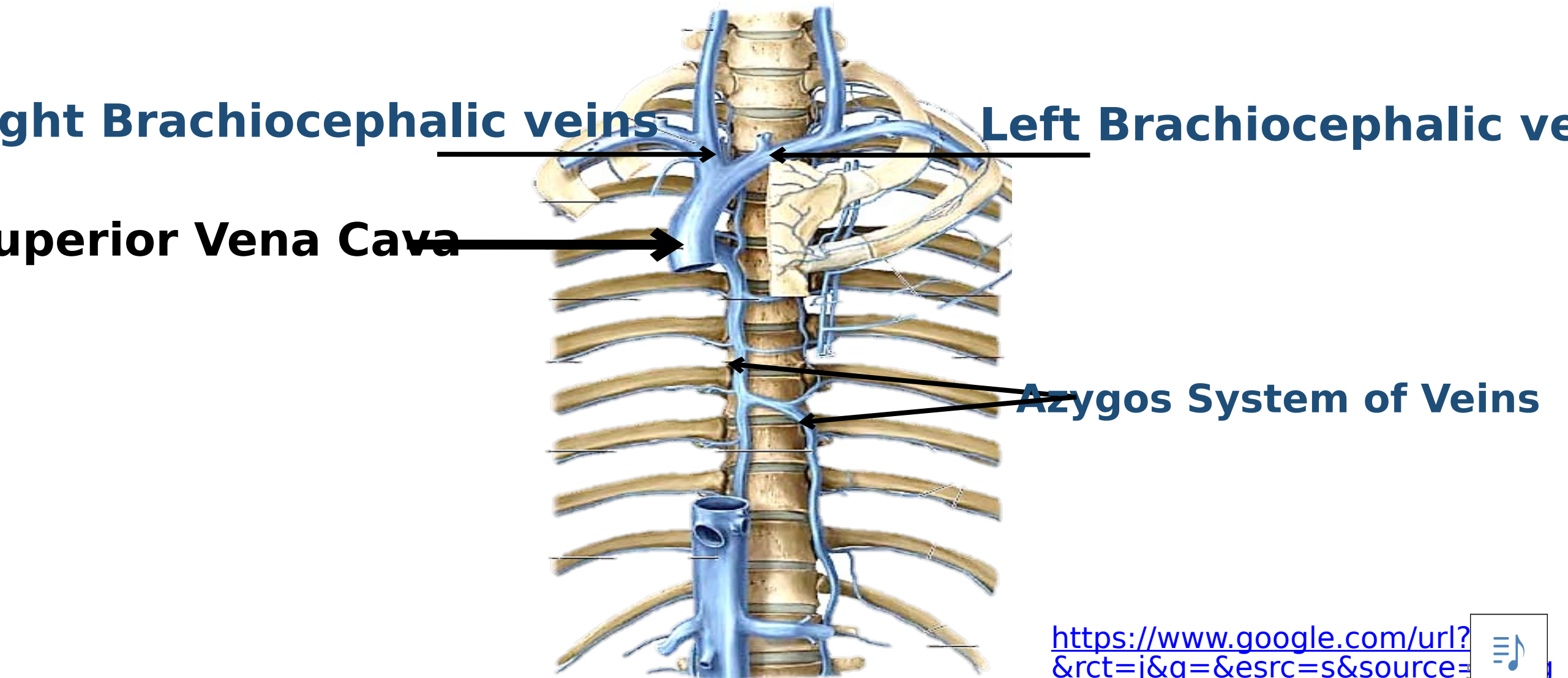
Lecture Plan



1. Part 1 (5 min): Introduction to veins of the thorax
2. Part 2 (35 min): Discussion of beginning, course, termination, important and relations of the veins of the thorax
3. Part 3 (5 min) Summary
4. Lecture Quiz (5 min)



Veins of Thorax



Brachiocephalic (Innominate) veins

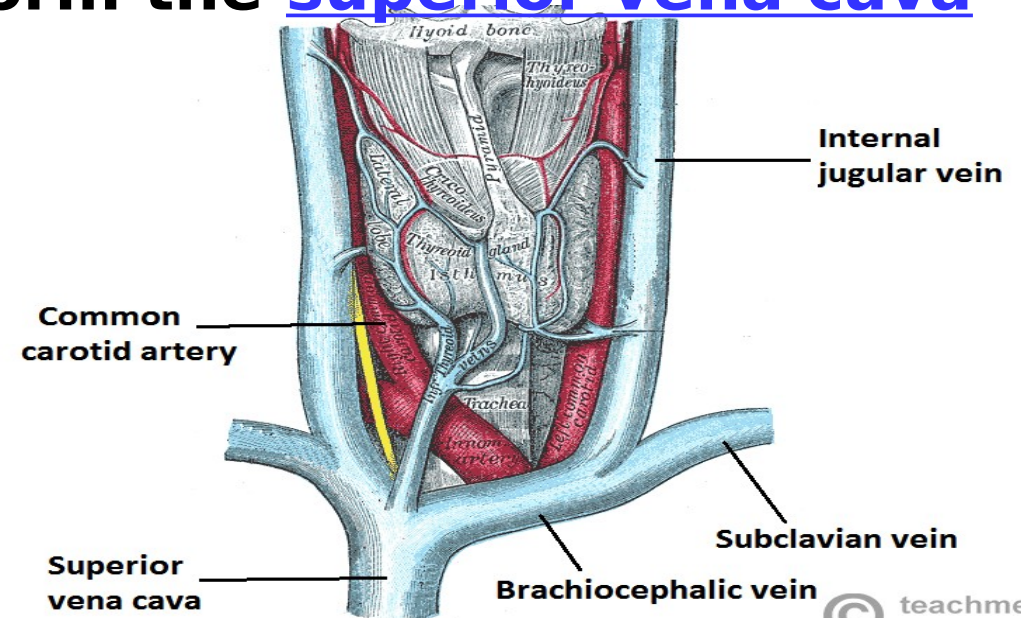
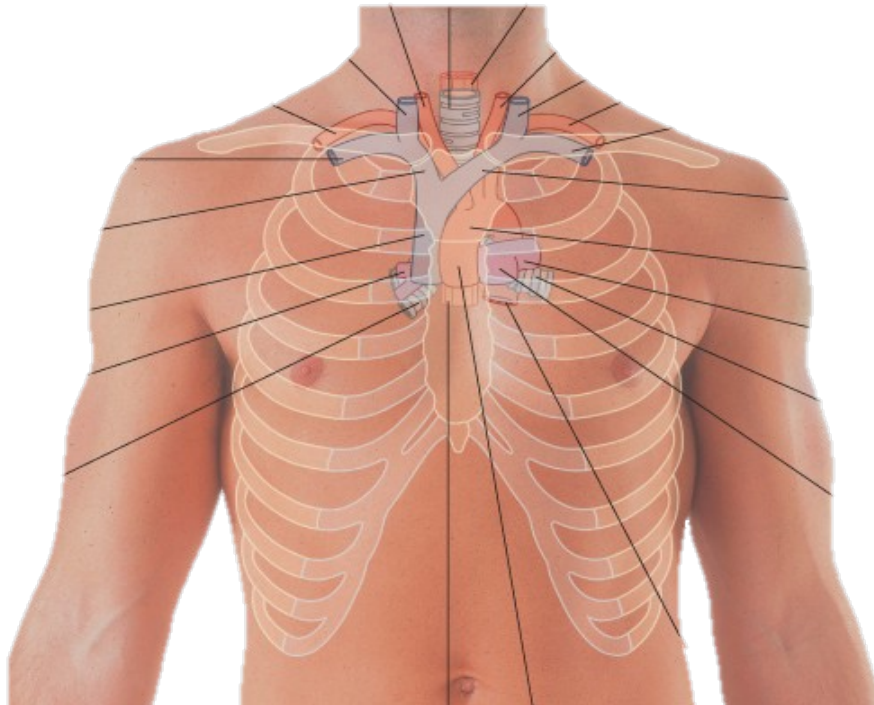


❑ Origin :

They are formed by union of
➤ **internal jugular vein & subclavian vein.**

❑ Termination :

left innominate vein crosses obliquely to the right side to join the right innominate vein to form the **superior vena cava**



Brachiocephalic (Innominate) veins



➤ Beginning :

Each vein is formed behind the corresponding sternoclavicular joint

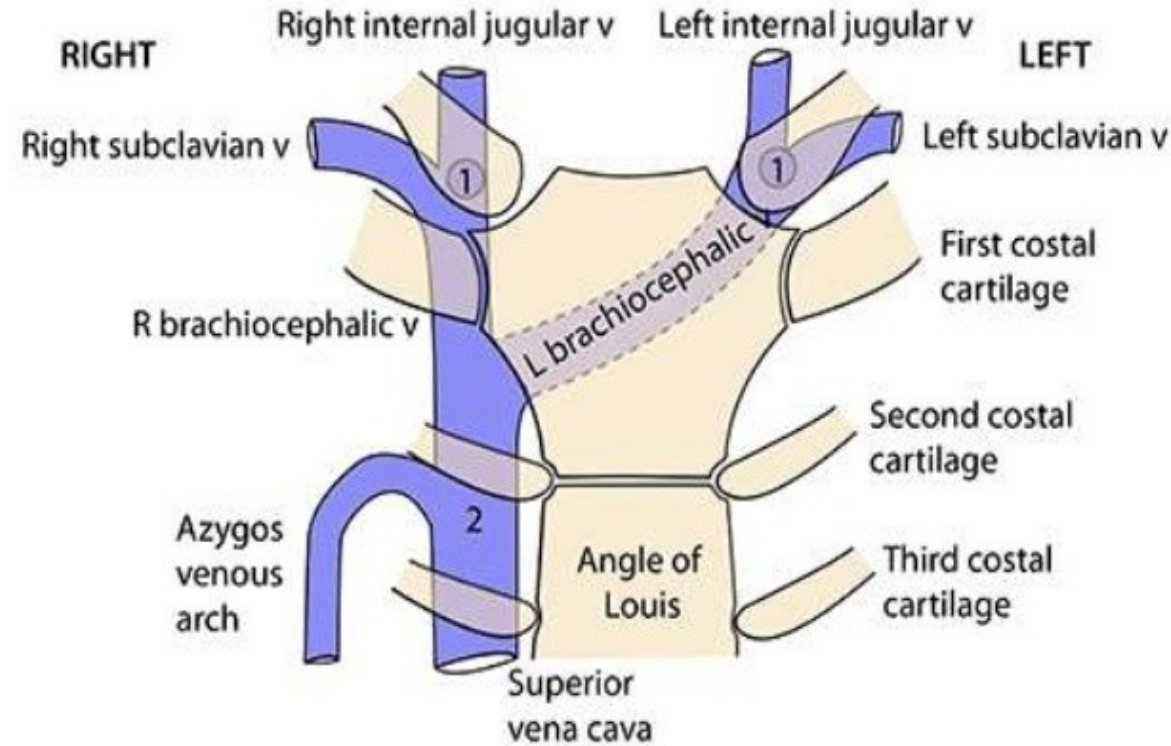
➤ Course :

They lie immediately behind the manubrium sterni

➤ in superior mediastinum

➤ End :

At right 1st cc : right & left innominate vein to joined form SVC.

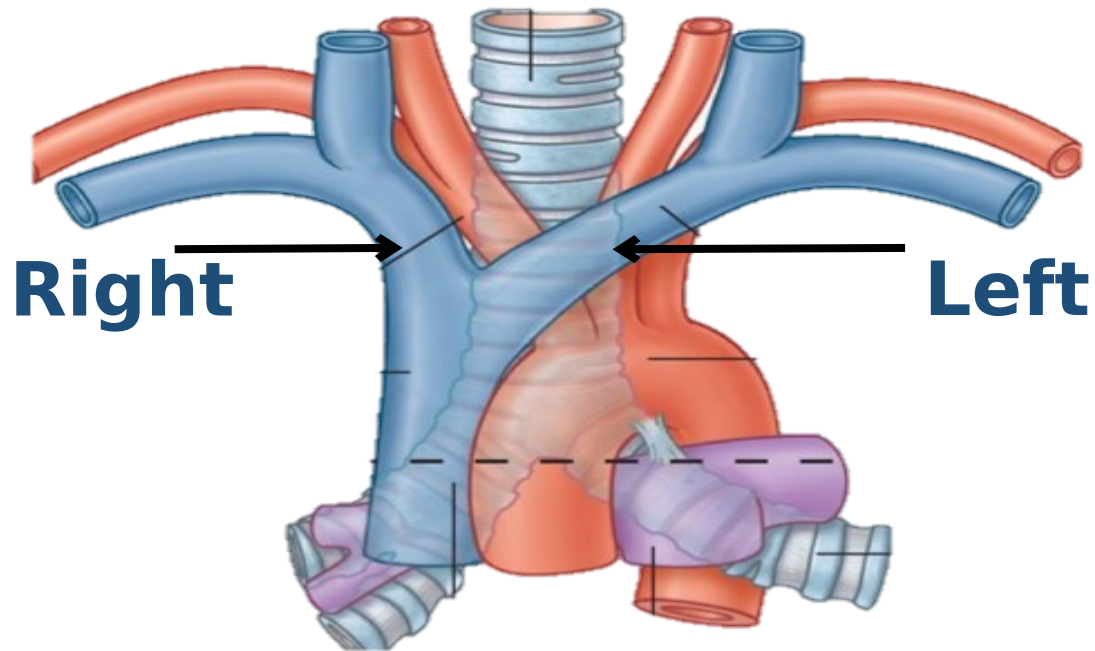


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Right Innominate Vein

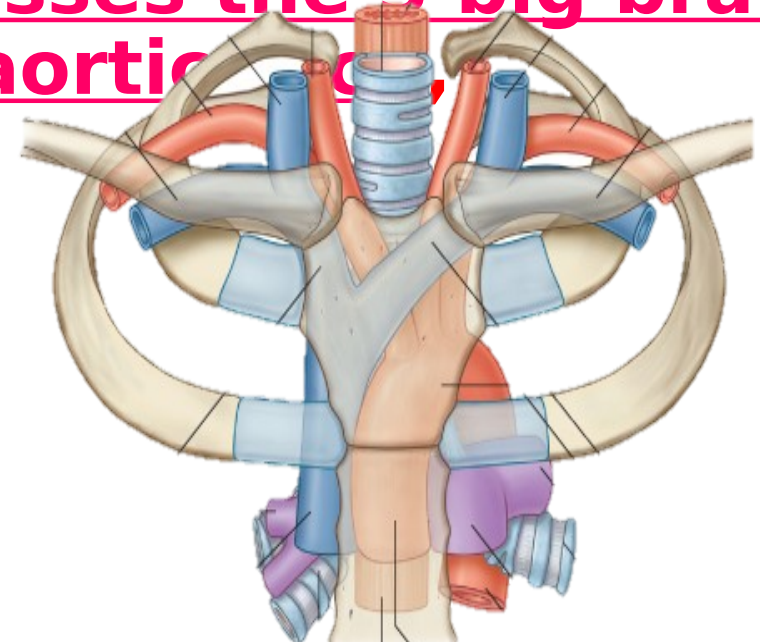
- one inch long
- Descends **vertically** downwards



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left Innominate Vein

- **2½ inches long**
- **passes obliquely**
- **Just posterior to manubrium sterni**
- **Crosses the 3 big branches of aortic arch**

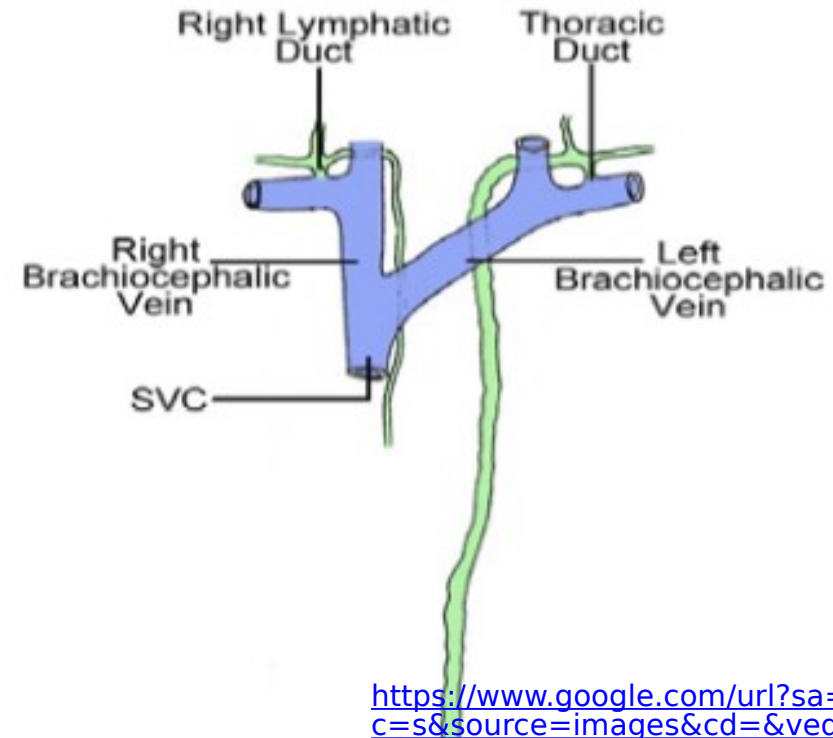
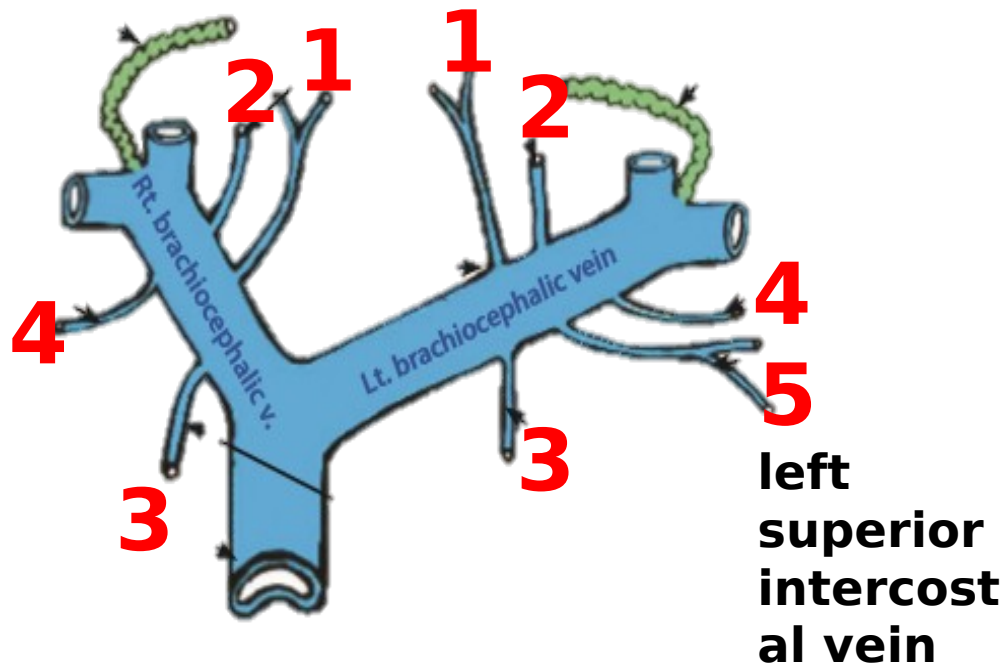


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Tributaries of Brachiocephalic veins :

1. Inferior thyroid vein.
2. Vertebral vein.
3. Internal thoracic vein.
4. 1st posterior intercostal vein.
5. The left brachiocephalic vein receives also the left superior intercostal vein



<https://www.google.com/url?sa=i&rct=j&c=s&source=images&cd=&ved=2ahUK>





Brachiocephalic vein is formed behind which of the following joint

A. Manubriosternal joint

B. Xiphisternal joint

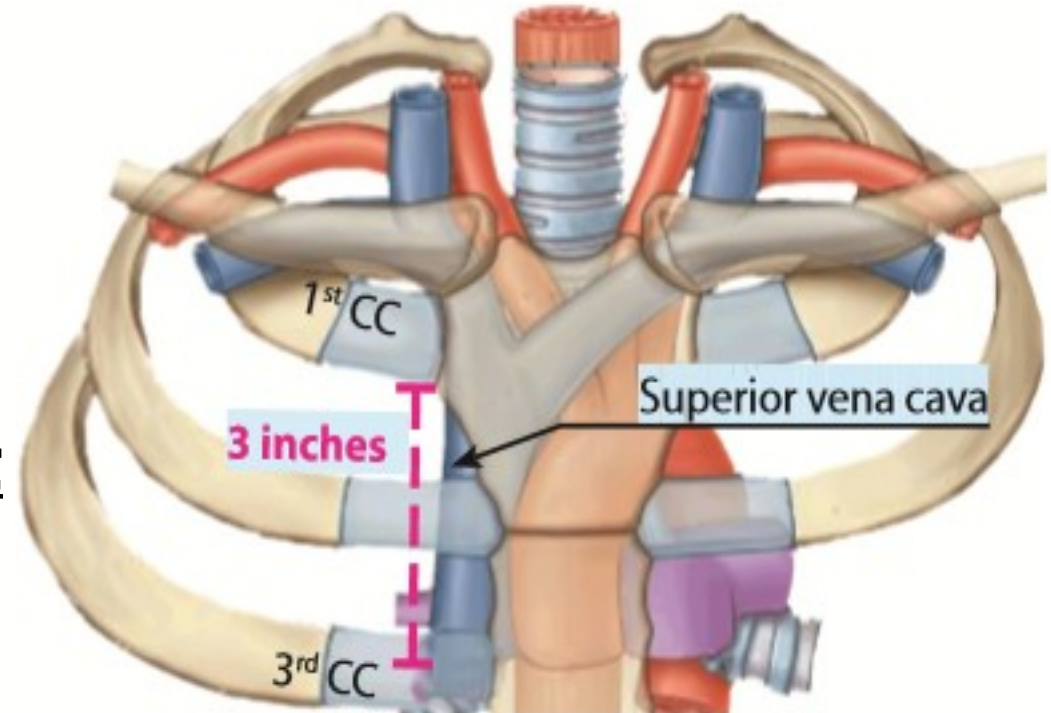
C. sternoclavicular joint

D. Acromioclavicular joint

Superior Vena Cava



- ✓ □ It is 3 inches long
- ✓ It drains venous blood from the upper $\frac{1}{2}$ of the body.
- ✓ Beginning:
It is formed by union right & left innominate vein at right 1st cc
- ✓ Ends
at the level of 3rd right costal cartilage by opening into right atrium of the heart

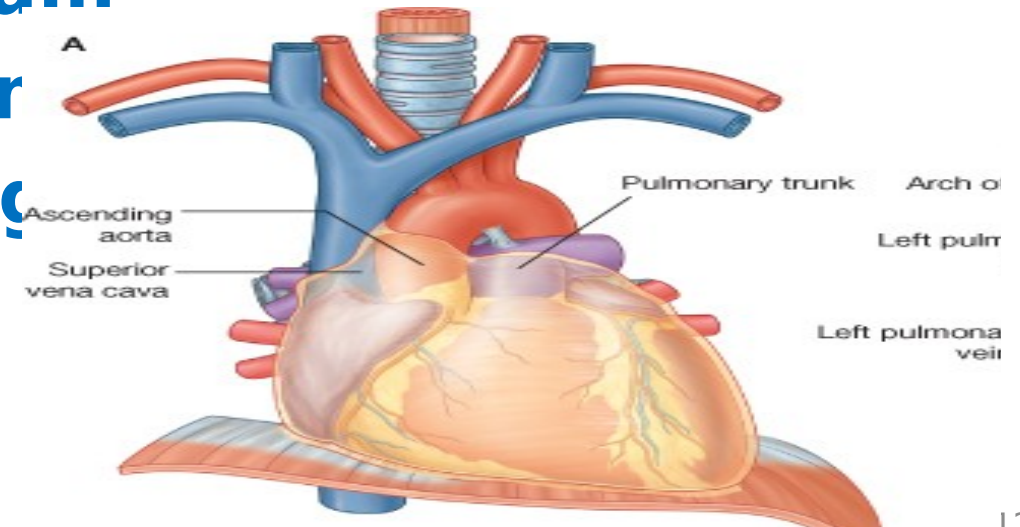
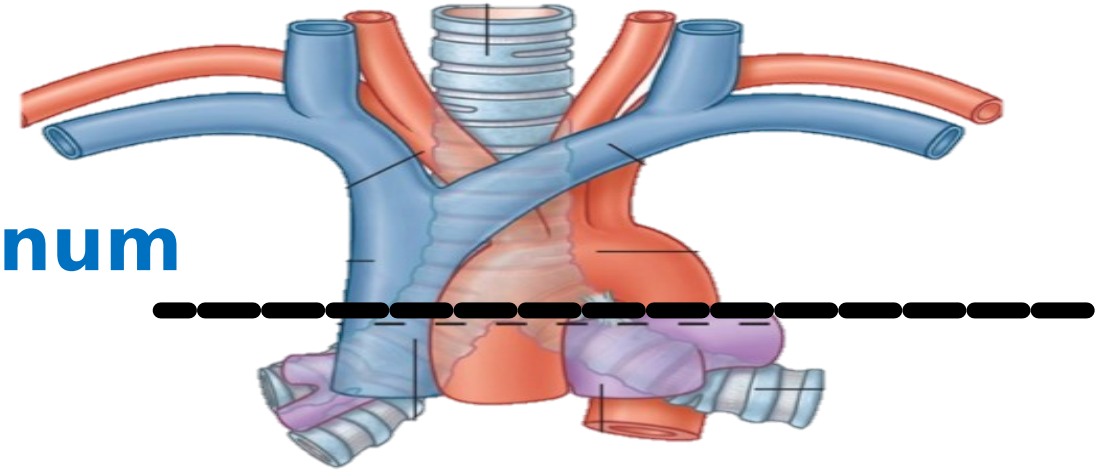


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Superior Vena Cava



- ❑ Its **upper $\frac{1}{2}$** lies in the **superior mediastinum**
- ❑ its **lower $\frac{1}{2}$** lies in the **middle mediastinum** within the fibrous pericardium on the right side of ascending aorta



Superior Vena Cava



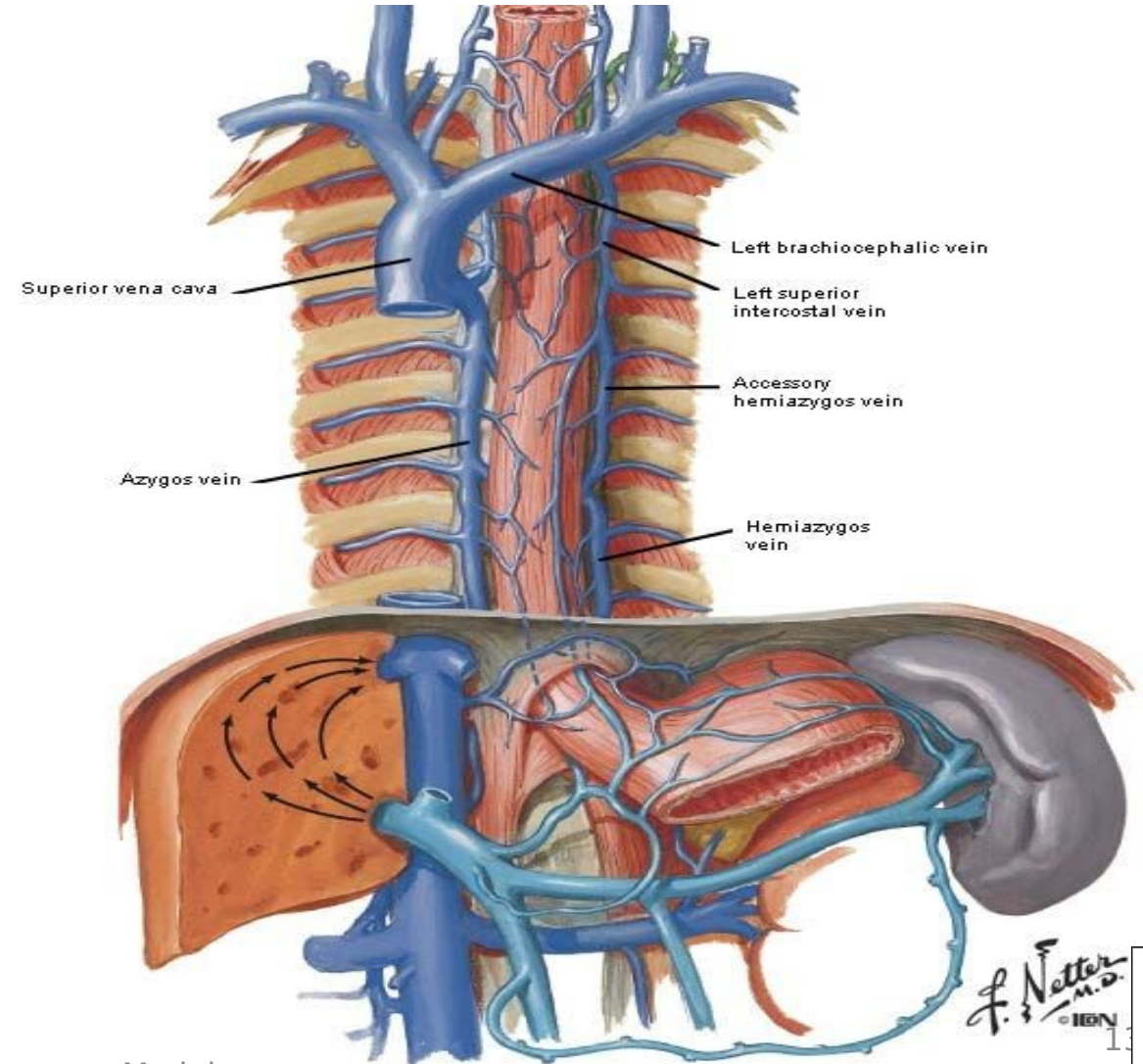
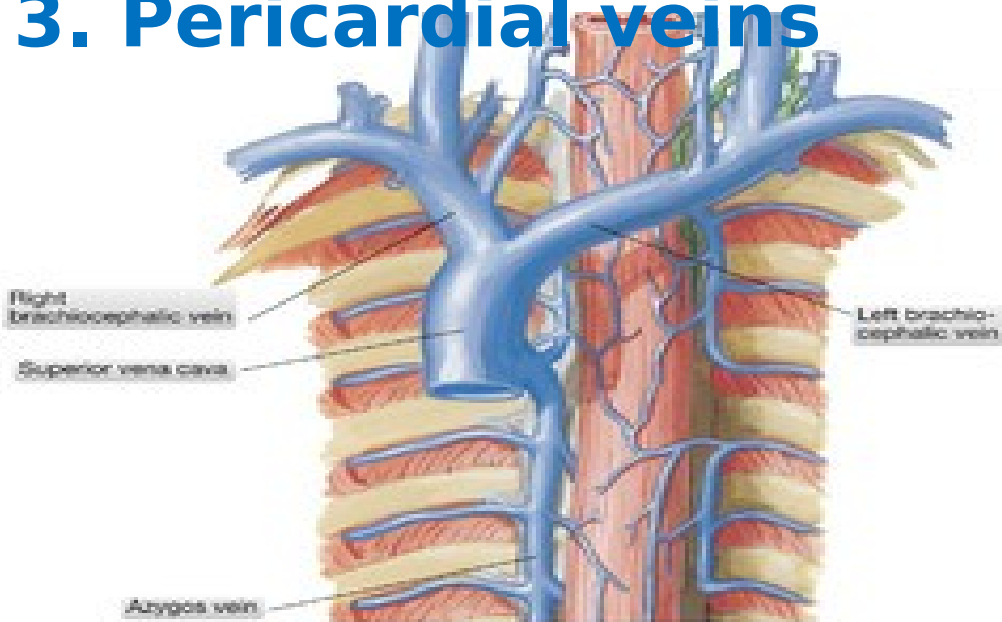
□ Tributaries

1. Azygos vein

at level of 2nd right costal cartilage.

2. Mediastinal veins.

3. Pericardial veins





Superior Vena Cava is formed by union right & left innominate vein at the level of

A. right 1st cc

B. left 1st cc

C. right 2nd cc

D. left 2nd cc

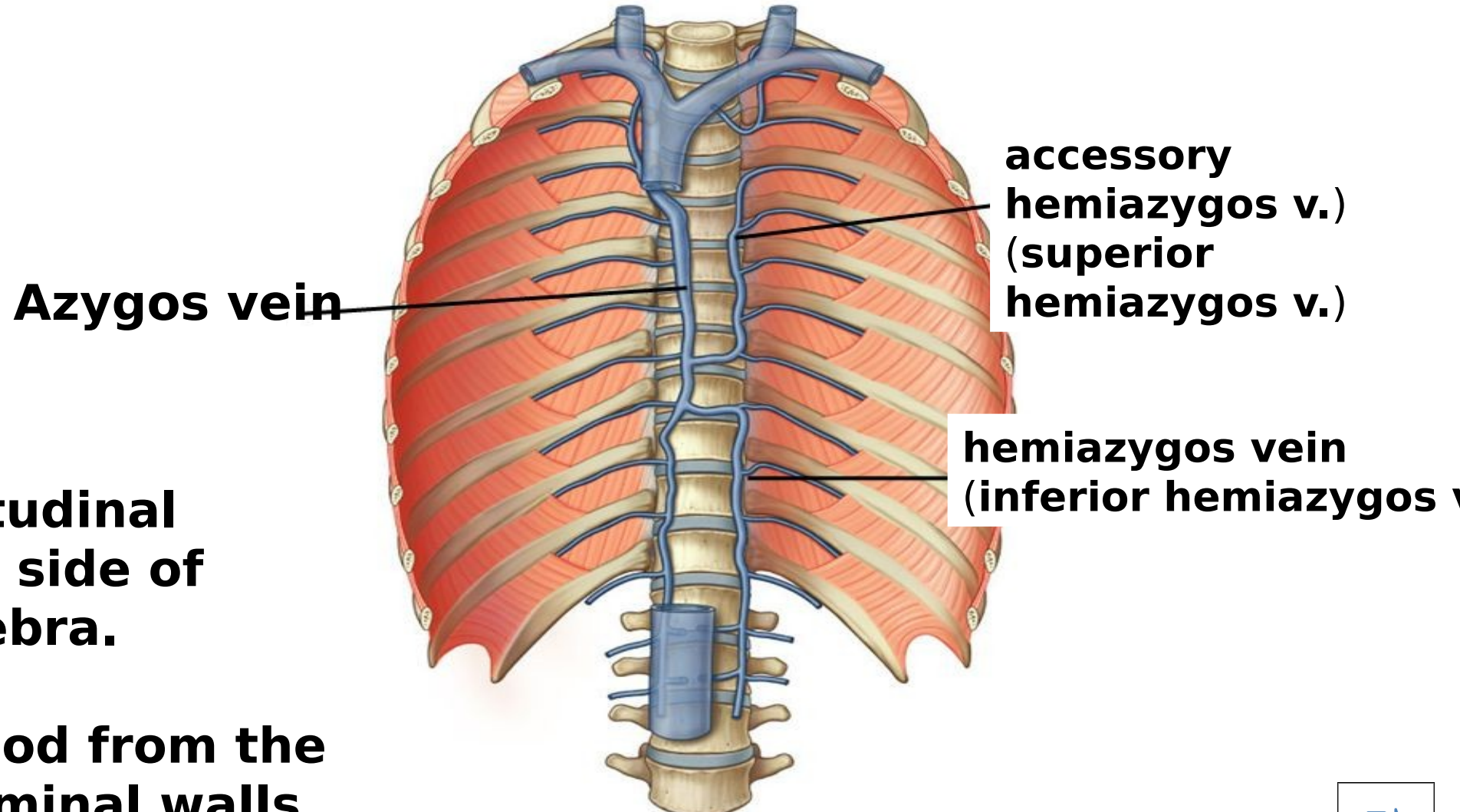
E. right 3rd cc

The Azygos venous system

A series of longitudinal veins on each side of thoracic vertebra.

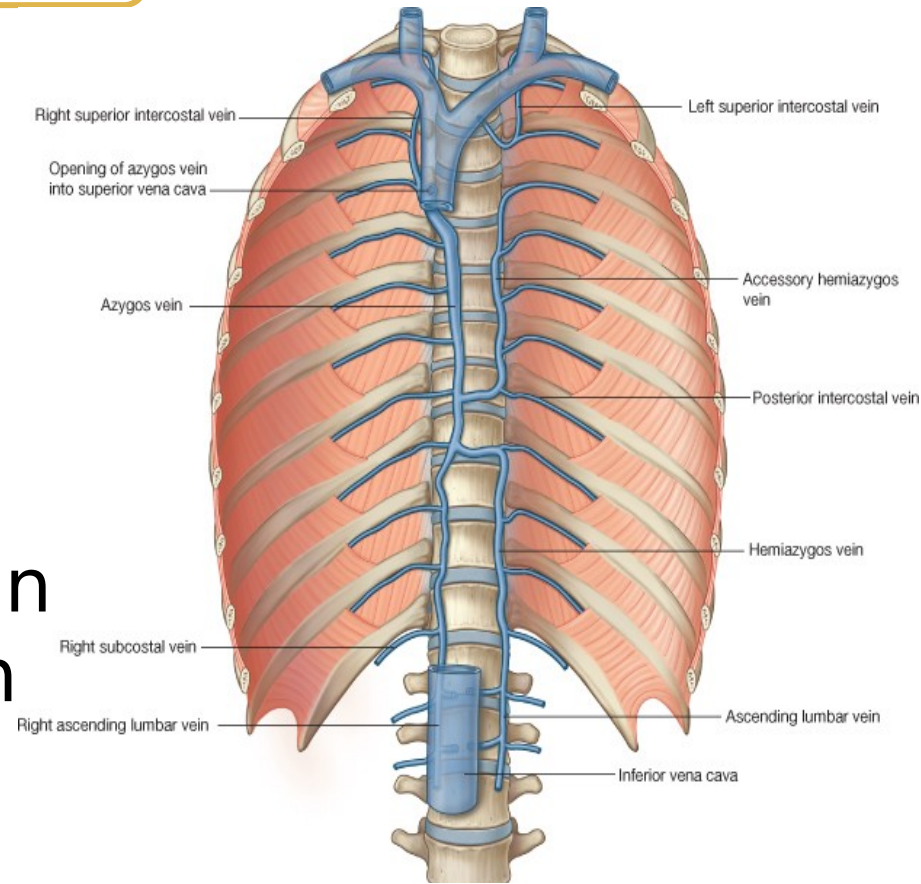
Drain venous blood from the thoraco-abdominal walls to the SVC.

Azygos Venous system:

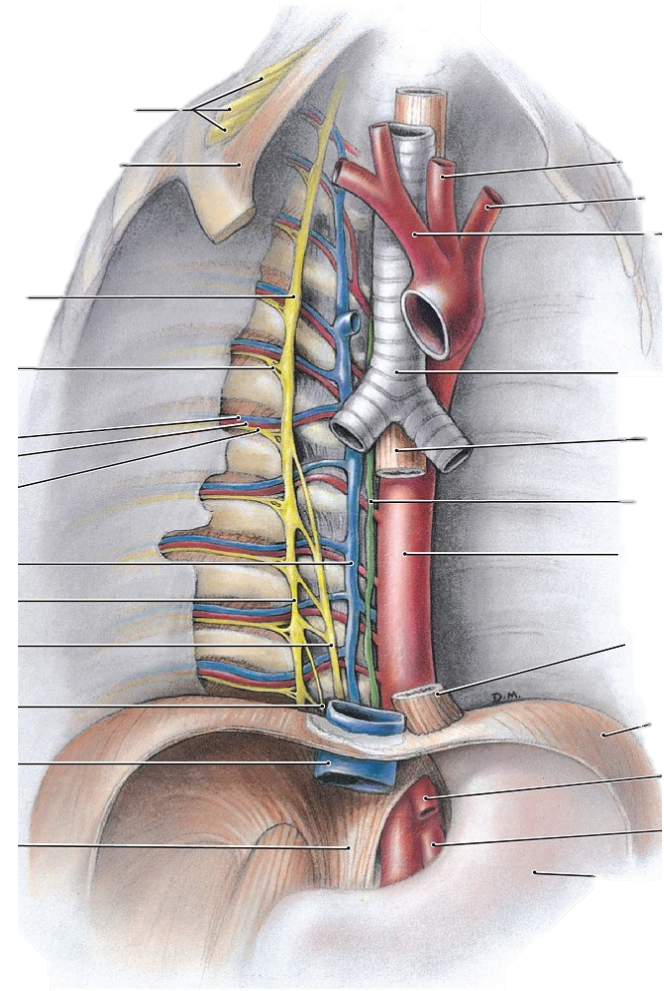


Azygos vein:

- ❑ **Origin :**
opposite **L1 or L2**
as a direct branch of
inferior vena cava.
or union between right
ascending lumbar vein
& right subcostal vein
- ❑ **enters thorax**
through **aortic**
opening in diaphragm



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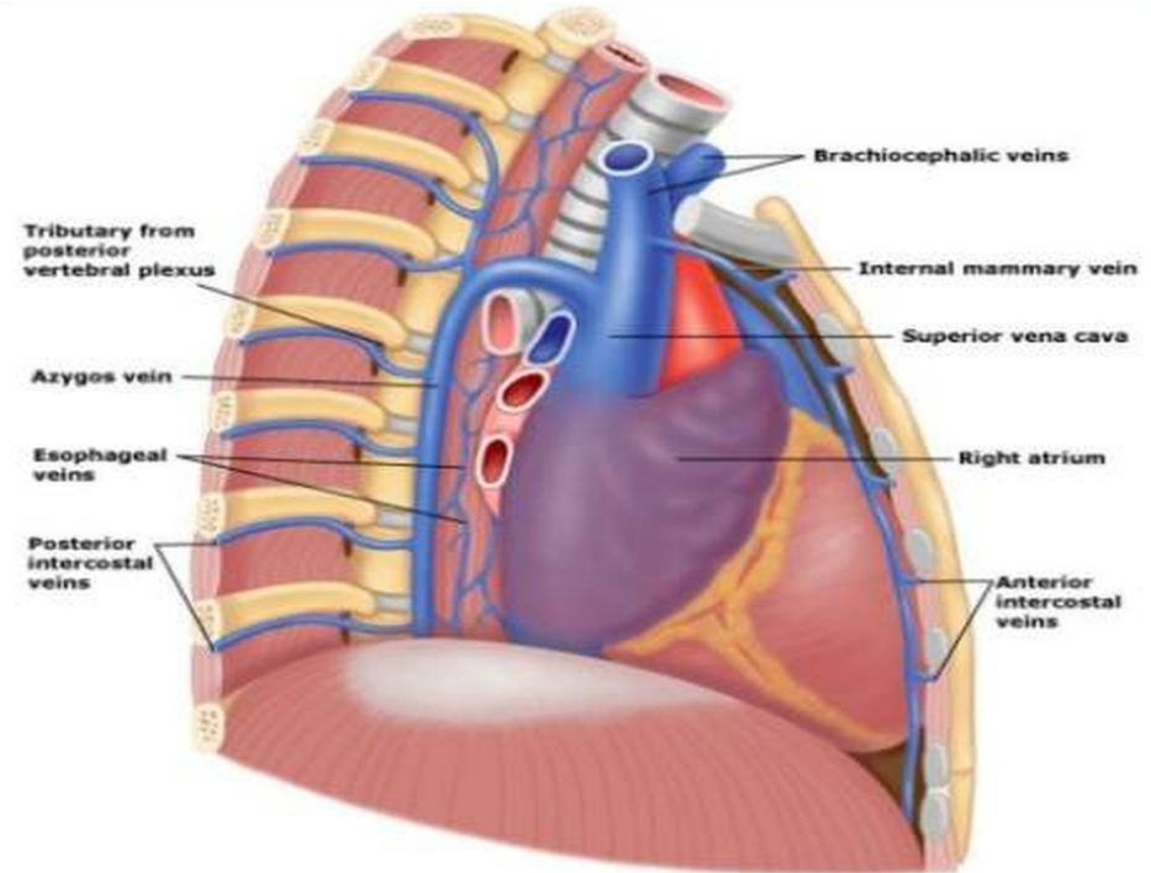


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Azygos vein:

□ Ends :
opposite **T4**
arches anteriorly over root of
right lung
open into the **back of SVC** at the
level of **2nd right costal**
cartilage.



<https://healthiack.com/encyclopedia/pictures-of-azygos-vein/attachment/pictures-of-azygos-vein->

Lecture Quiz



Azygos vein open into the **back of SVC** at the level of

A. right 1st cc

B. left 1st cc

C. right 2nd cc

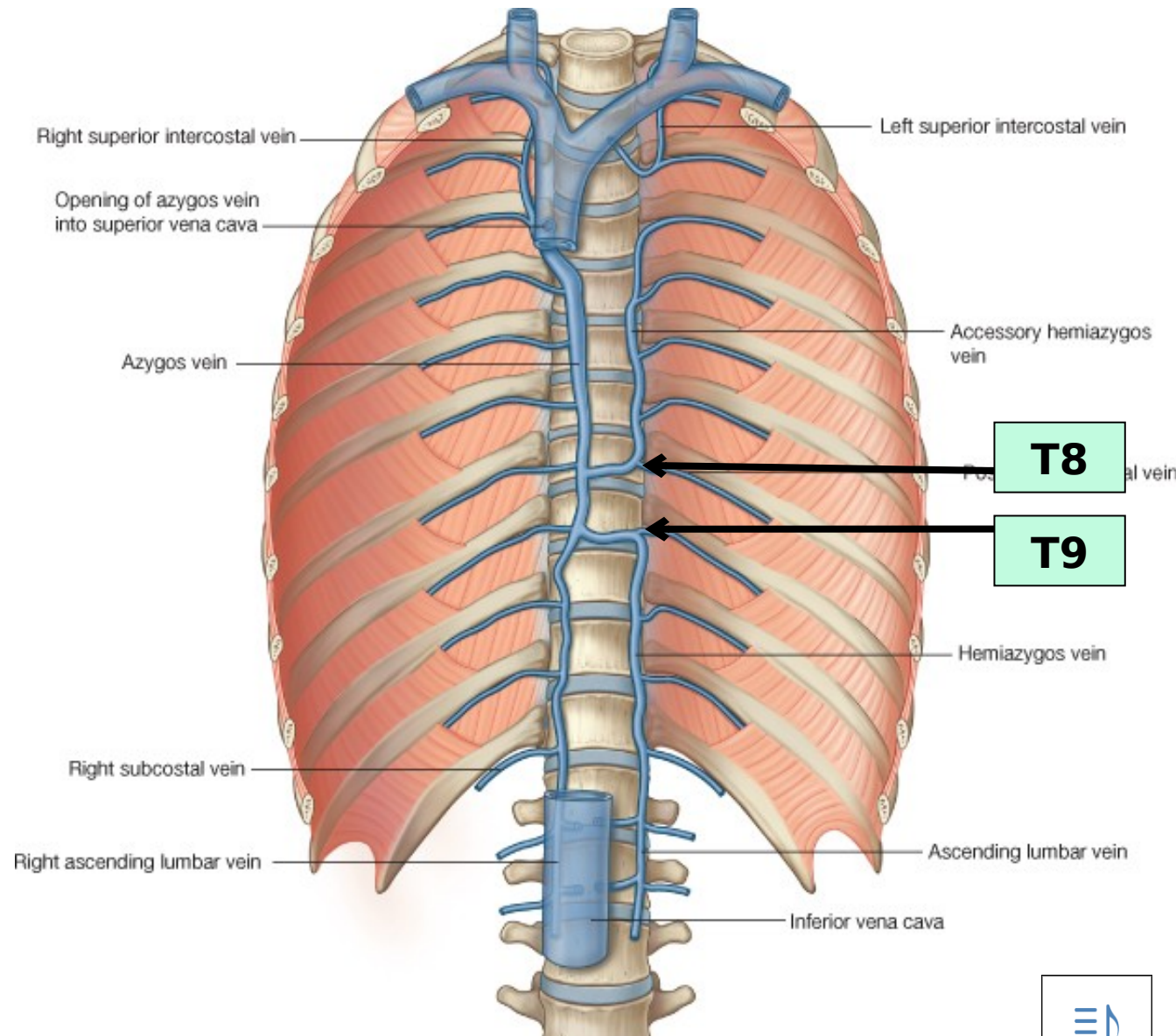
D. left 2nd cc

E. right 3rd cc

Azygos vein:

Tributaries of azygos vein include:

1. intercostal veins
2. hemiazygos vein
(at the level of T9 vertebra)
3. accessory hemiazygos vein
(at the level of T8).
5. communicates with vertebral venous plexuses
6. Oesophageal, mediastinal and pericardial vs



Lecture Summary



- ❑ Veins of the thorax
 - Introduction
 - beginning,
 - Course Click to add text
 - Termination
 - important relations

Lecture Quiz



Question 1

Describe formation of azygous system

Question 2

Compare between right and left brachiocephalic veins

SUGGESTED TEXTBOOKS



Clinical Anatomy for Medical Students .Richard S. Snell

Gray's anatomy for students . Page 194- 196

